

BAND-BY-BAND FULL DUPLEX COMMUNICATION

ABSTRACT

5 A telephone includes a first channel having a
microphone input and a line output, a second channel
having a line input and a speaker output, and each
channel having a plurality of band pass filters with
their outputs coupled to a multiplex circuit. The
10 multiplex circuit selects subsets of the signals in each
channel in accordance with the magnitudes of the signals
in each band. Thus, full duplex operation is provided in
accordance with the spectral content of each channel. In
one embodiment of the invention, the multiplex circuits
15 initially allocate alternate bands within each channel
and complementary bands between the channels, thereby
emulating a complementary comb filter. Thereafter, bands
are allocated according to spectral content.